

1 **WHAT IS CLAIMED IS:**

2
3 1. An identification system for identifying documents
4 bearing a magnetic stripe recorded with digital data and
5 having a repeatable magnetic characteristic, comprising:

6 a magnetic stripe sensor for sensing the magnetic stripe
7 to provide an analog signal representative of the recorded
8 digital data and the repeatable magnetic characteristic;

9 a digitizer for sampling the analog signal to provide
10 digitized samples indicative of the repeatable magnetic
11 characteristic;

12 a waveform circuit for providing range data
13 characteristic of the analog signal; and

14 a storage for storing representations of the digitized
15 samples and the range data as identification data to identify
16 the document.

17
18 2. An identification system according to claim 1
19 wherein the magnetic stripe is recorded with a series of
20 leading zeros and the digitizer samples the analog signal in a
21 portion representing the series of leading zeros.

22
23 3. An identification system according to claim 1
24 wherein the magnetic stripe is recorded with digital data
25 represented by magnetic transitions and the digitizer samples
26 a portion of the analog signal representing spaces between
27 said magnetic transition to provide a digitized samples
28 indicative of the repeatable magnetic characteristic.

1 4. An identification system according to claim 1
2 wherein the documents comprise magnetic stripe cards and
3 wherein the digital data recorded on the magnetic stripes
4 includes data for fetching identification data from the
5 storage.

6
7 5. An identification system for identifying documents
8 bearing a magnetic stripe recorded with digital data and
9 having a repeatable magnetic characteristic, comprising:

10 a magnetic stripe sensor for sensing the magnetic stripe
11 to provide an analog signal representative of the recorded
12 digital data and the repeatable magnetic characteristic;

13 a magnetic characteristic circuit providing magnetic
14 characteristic representations indicative of the repeatable
15 magnetic characteristic;

16 a waveform circuit providing range representations
17 indicative of a characteristic of the analog signal; and

18 a forming circuit to provide document identification
19 representations based on the magnetic characteristic
20 representations and the range representations to identify the
21 documents.

22
23 6. An identification system according to claim 1
24 further including storage to store document identification
25 representations and a comparison structure for comparing
26 document identification representations from the storage with
27 document identification representations from the forming
28 circuit to verify a document.

1 7. An identification system according to claim 6
2 wherein the storage stores a plurality of document
3 identification representations for comparison with a document
4 identification representation from the forming circuit and
5 wherein verification requires a degree of dissimilarity.
6

7 8. An identification system according to claim 5
8 wherein the magnetic characteristic circuit provides magnetic
9 characteristic representations from the analog signal at
10 substantially flat sections to produce a predetermined number
11 of digital samples.
12

13 9. An identification system according to claim 5
14 wherein the waveform circuits provides range representations
15 indicative of amplitudes of the analog signal.
16

17 10. An identification system according to claim 5
18 wherein the waveform circuit provides range representations
19 indicative of ratios of amplitudes of the analog signal at
20 predetermined locations.
21

22 11. A system for use with a card bearing a magnetic
23 stripe having a repeatable magnetic characteristic and
24 recorded with digital data in the form of magnetic
25 transitions, said system for providing a sensed characteristic
26 identification for the card, comprising:

27 means for sensing said magnetic stripe to provide
28 representations of digitally recorded data and representations

1 of the repeatable magnetic characteristic in the form of
2 digital sample signals;

3 means for selectively storing card identification words
4 formed from the digital sample signals to manifest the
5 repeatable magnetic characteristic of a card and amplitude
6 characteristics of the digital sample signals.

7
8 12. A process for identifying documents bearing a
9 magnetic stripe having a distinct magnetic characteristic that
10 is capable of repeated sensing to identify individual
11 documents, said process including the steps of:

12 sensing the magnetic stripe to produce a representative
13 analog signal manifesting the distinct magnetic
14 characteristic;

15 providing magnetic characteristic representations
16 indicative of the distinct magnetic characteristic;

17 providing range characteristic representations indicative
18 of the analog signal regarding amplitude; and

19 providing identification representations based on the
20 magnetic characteristic representations and the range
21 characteristic representations to identify the documents.

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